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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/403,312	01/21/2000	KUNIO FUKUDA	6715/57722	7093

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EXAMINER

HARPER, KEVIN C

ART UNIT PAPER NUMBER

2666

DATE MAILED: 03/26/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/403,312

Applicant(s)

FUKUDA, KUNIO

Examiner

Kevin C. Harper

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4,7-9,11-13,16-18,21-23,25-29,31,32,38-40,43-45 and 48-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,7-9,11-13,16-18,21-23,25-29,31,32,38-40,43-45 and 48-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Arguments***

Applicant's arguments, see page 25, third paragraph of the previous response, filed January 12, 2004, with respect to the rejection(s) of claim(s) 1-4, 7-9, 11-13, 16-18, 20-23, 25-29, 31-32, 38-40, 43-45 and 48-50 under 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Malkamaki et al. (WO 98/02982).

***Drawings***

1. Corrected drawings were received on January 12, 2004. These drawings are approved.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 16-18, 21-23, 27-29, 38-40, 43-45 and 48-50 are rejected under 35 U.S.C. 102(a) as being anticipated by Malkamaki et al. (WO 98/02982).

2. Regarding claim 16, 21, 27, 38-39, 43 and 48, Malkamaki discloses a communication system (Figure 1) comprising a base station device (item 104) having a transceiving means for carrying out communication with a first device using an OFDM signal (page 6, lines 19-31; Figures 4 and 6) having data dispersed to several subcarriers or with a second device using a single subcarrier for a communication (page 9, line 31 through page 10, line 14; page 6, lines 15-32). The base station comprises a discrimination means for discriminating the multi-carrier signal using m

Art Unit: 2666

subcarriers and the single carrier (Figure 6; page 8, lines 19-22 and page 10, lines 2-13). Regarding claims 21, 27, 38, 43 and 48,  $m$  is an integer greater than two (page 8, lines 19-25 and page 10, lines 2-12) and  $j$  is 1.

3. Regarding claims 17-18, 22-23, 28-29, 40, 44-45 and 49-50, the base station comprises a receiving control means to demodulate data transmitted at various frequencies and at various time slots within a frame (Figures 4 and 6; page 6, lines 20-25).

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2-4, 7-9 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki (WO 98/02982) in view of Suzuki (US 6,400,679).

4. Regarding claims 2, 7 and 11, Malkamaki discloses a communication system (Figure 1) comprising a base station device (item 104) having a transceiving means for carrying out communication with a first device using an OFDM signal (page 6, lines 19-31; Figures 4 and 6) having data dispersed to several subcarriers or with a second device using a single subcarrier for a communication (page 9, line 31 through page 10, line 14; page 6, lines 15-32). The base station comprises a discrimination means for discriminating the multi-carrier signal using  $m$  subcarriers and the single carrier (Figure 6; page 8, lines 19-22 and page 10, lines 2-13). However, Malkamaki does not disclose that certain devices use fewer carriers than a first device during uplink communications, where the fewer carriers is more than one. Suzuki discloses that the number of carriers allocated to a subscriber in OFDM is variable and based on the amount of communication desired (Figure 7; col. 4, lines 32-38). Therefore, it would have been obvious to one skilled in the

Art Unit: 2666

art at the time the invention was made to have a variable number of assigned carriers for the devices in the invention of Malkamaki in order to give a higher bandwidth to users that have paid for a higher rate of service or that require a momentarily higher rate of service.

5. Regarding claims 3-4, 8-9 and 12-13, in Malkamaki the base station comprises a receiving control means to demodulate data transmitted at various frequencies and at various time slots within a frame (Figures 4 and 6; page 6, lines 20-25).

Claims 25-26 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki as applied to claim 21 or 27 above, in further view of Igarashi (US 5,940,143).

6. Regarding claims 25-26 and 31-32, Malkamaki does not disclose a passband filter for an OFDM system. Igarashi discloses a controllable passband filter for an OFDM system (Figure 1, item 20; col. 5, lines 41-42 and 55-58). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have a passband filter for selecting a reception frequency or frequencies in the invention of Malkamaki in order to avoid receiving unwanted signals outside an desired reception frequency band.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ramesh (US 5,805,567) discloses a narrowband signal transmitted simultaneously with a wideband signal (Figures 3 and 7).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Harper whose telephone number is 703-305-0139. The examiner can normally be reached weekdays, except Wednesday, from 9:30 AM to 8:00 PM ET.

Application/Control Number: 09/403,312

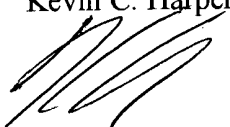
Page 5

Art Unit: 2666

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao, can be reached at 703-308-5463. The centralized fax number for the Patent Office is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service Office for TC 2600 at 703-306-0377.

Kevin C. Harper



March 21, 2004



DAN S. TON  
PATENT ATTORNEY